



U.S. Department of Transportation
Federal Transit Administration

Alternative Transportation in the Parks and Public Lands Program
Project Proposal for Fiscal Year 2007 Funds – Implementation Project

BASIC PROJECT INFORMATION

Project Name
Mendenhall Glacier Visitor Center Transit Improvements: design, procure and implement Intelligent Traffic Systems.

Proposed Funding Recipient
Mendenhall Glacier Visitor Center managed by the Juneau Ranger District

Public land unit(s) involved:
Tongass National Forest

Location of Project
City: Juneau
County: Juneau
State: Alaska
Congressional District: 1

Federal Land Management Agency managing the above unit(s):

- ☐ Bureau of Land Management
☐ Bureau of Reclamation
☐ Fish and Wildlife Service
☒ Forest Service
☐ National Park Service

Type of Implementation Project:
(Planning projects, please use the alternate form)

- ☐ Bus
☐ Vehicle replacement
☐ Tram/Trolley
☐ Boat/Ferry/Dock
☐ Rail
☐ Non-motorized (e.g., bicycling/pedestrian trail)
☒ Other (e.g., Intermodal facility, ITS)
Describe: ITS for commercial traffic management and visitor information.

- ☐ Proposal is for a new alternative transportation system where none currently exists.
☒ Proposal is for an expansion or enhancement of an existing alternative transportation system.
☐ Proposal is for rehabilitation of or replacement of vehicles or facilities for an existing alternative transportation system.

ATPPL Funding Requested during FY 2007
\$500,000

Total Project Capital Cost at Completion (All sources)
\$500,000

Were you awarded FY 2006 ATPPL funds? ☐ Yes ☒ No
If answer "Yes," please provide amount awarded: \$

Do you plan to request additional ATPPL funds in future years? ☐ Yes ☒ No
(Note: If you wish to compete for future ATPPL fiscal year funding you must reapply).
If answer "Yes," please specify ATPPL proposed funding levels for out years below:

FY 2008

FY 2009 \$

FY 2010 \$

FY 2007 Funding Amounts from sources other than ATPPL funds? ☒ Yes ☐ No
If answer "Yes," please specify funding levels per source below:

State \$

Local \$

Federal (other than ATPPL) \$50,000

Private sources \$

CONTACT PERSON

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Juneau, Alaska 99801**OTHER PROJECT SPONSORS (in addition to funding recipient)**

Western Lands Federal Highways Division:
Contributions through the Forest Highway Enhancement Program (50% / 50%) in preparing the
Mendenhall Glacier Visitor Center Congestion Study (US DOT Volpe Center, 2006).

REQUIREMENTS

- ☐ If a State, Tribal, or local government entity is proposing the project, the applicant has contacted the manager of the federal land unit(s) and has the consent of the Federal land management agency or agencies affected.
- ☒ The project is consistent with the metropolitan and statewide planning process.
- ☒ The project is consistent with agency plans.
- ☒ If this is an implementation project, all reasonable alternatives, including a non-construction option, were analyzed before proposing this project.

BASIC PROJECT DATA

Number of Visitors (Annual): 360,917 visitors arrived via commercial transportation in 2006. This does not include visitors arriving by other means.

Daily Number of Visitors (Peak season): 5230 (over 95% by bus)

Average Number of Vehicles per Day at Peak Visitation: Peak season total ADT is unknown, but 115 commercial motor coaches, vans, and taxis arrive each day of the peak season on average.

Current Road Level of Service at Peak Visitation: Alaska DOT does not assign an LOS to the congested load/unload zone at the turnaround. DOT's Volpe Center assigned an LOS 'F' for this area.

What time of the year does your land unit experience Peak Visitation?

☐ Spring ☒ Summer ☐ Fall ☐ Winter

Current Carrying Capacity of Existing Roads: 90 buses/day

Current parking shortages during peak visitation: Tour and shuttle buses experience parking shortages, especially at the bus loading area.

Current Average Number of Persons who use the alternative transportation system (if one already exists) at Peak Visitation:
3930 per day, average

Current Annual Number of Persons who use the alternative transportation system (if one already exists): 360,917 visitors arrive on privately provided commercial transportation.

Estimated Annual Number of Persons who will use the alternative transportation system at project completion: 375,353 (annual, based on 4% growth; anticipated ridership/usage)

Is there an anticipated reduction in auto collisions with large animals with this project?

☐ Yes ☒ No

If "Yes," please provide anticipated reduction: collisions/year

BASIC PROJECT DATA (CONTINUED)

Is there an anticipated increase in porous surface with this project? ☐ Yes ☒ No

If "Yes," please provide anticipated area of increase: square feet

Is there an anticipated increase in wildlife habitat connectivity? ☐ Yes ☒ No

If "Yes," how many acres would be connected by the project? acres

Is there an anticipated increase in air clarity measures (e.g., visitors' visual experience) for the land unit as a result of this project? ☒ Yes ☐ No

If "Yes," please explain:

A reduction in bus traffic congestion will help ensure air clarity by reducing diesel exhaust in the vicinity of the viewing location adjacent to the existing bus pick-up/drop-off area.

Is there an anticipated reduction of visual impact of parking and roads on visitor experience?

☒ Yes ☐ No

If "Yes," please explain:

Long queues of buses at the loading/unloading areas currently obstruct views toward the glacier and add significant "visual clutter". Implementation of the project will reduce queuing and a vastly improved sense of arrival will be achieved.

Is there an anticipated reduction of visual or noise impacts of transportation facilities on visitor experience?

☒ Yes ☐ No

If yes, please explain:

Buses queuing for the loading/unloading areas currently add significant "visual clutter" and subject visitors to noise from idling. Implementation of the project will reduce the visual and noise impacts of severe bus congestion at the unload/load zones.

Executive Summary

The Mendenhall Glacier Visitor Center of the Tongass National Forest in Juneau, Alaska is experiencing vehicular and pedestrian congestion. The proposed remedy is to use an interceptor lot to regulate bus activity at the Visitor Center, along with necessary pedestrian and vehicular facility improvements and staffing. ATPPL funds would be used for the design, procurement and construction of an associated Intelligent Traffic System (ITS) to manage bus activity efficiently and provide visitors with “real-time” information. Implementation of the project will alleviate severe bus and pedestrian congestion, without extensive alteration of the Visitor Center complex. There is a high degree of confidence that the improvements will accommodate visitors well into the foreseeable future, and give them a meaningful, fulfilling and safe experience at the Visitor Center.

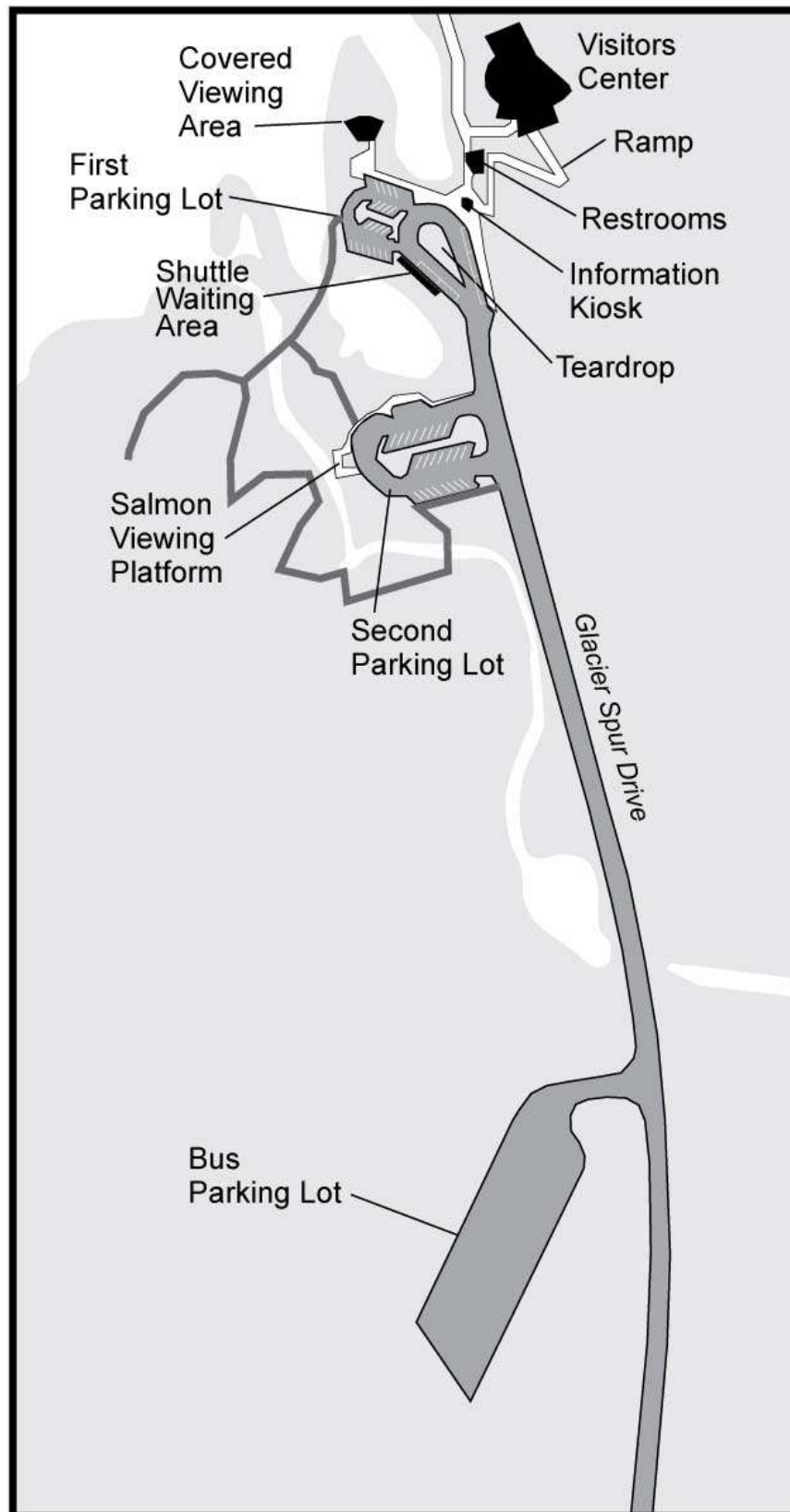
Mendenhall Glacier has experienced rapid growth in visitation as Juneau’s popularity as a cruise ship destination has grown, resulting in visitation peaks that in recent years exceed site design capacity by 20-25%. Traffic congestion results from strong peaks in visitation on particular days at particular times, and is associated with onshore bus excursions that bring cruise ship passengers to the site. Overall alternative transportation service to the Mendenhall Glacier site is provided by private bus operators under permits issued by the Forest Service. The service is fully funded by tour fees or fares paid by passengers. Although the vast majority of Mendenhall Glacier visitors arrive by tour bus, the capacity for bus operations at the Visitor Center is limited and the existing circulation pattern mixes private vehicle, bus, bicycle, and pedestrian traffic. During peaks in visitation, pedestrian and vehicular congestion occurs at six locations. Current traffic congestion degrades the visitor experience with delays, crowding within the Visitor Center, disorientation and confusion due to insufficient information, and bus noise and exhaust emissions. In addition, current facility design and operation involve several pedestrian-vehicular conflict points that are potential safety hazards and accessibility for the mobility-impaired has been degraded.

The Mendenhall Glacier Visitor Center (MGVC) site as designed, and as currently operated cannot comfortably accommodate current volumes of tour bus operations without active traffic management. Variable grade, wetlands, and view sheds limit options for adding capacity through expanded bus facilities in the immediate Visitor Center area. Active traffic management and associated facility improvements are needed to improve the visitor experience.

In 2006, US DOT Volpe Center studied vehicle and pedestrian congestion at the Mendenhall Glacier Visitor Center to identify existing traffic conditions and develop feasible alternatives to improve the situation. In November 2006 a Webinar presentation was conducted by the Volpe Center to present the existing conditions and obtain input regarding potential solutions from the Forest Service and transportation specialists from the FHWA, FTA and NPS. In December 2006, the Volpe Center delivered a draft report outlining four feasible options. In February 2007, internal and external stakeholder meetings were held to extract a single feasible strategy, and the interceptor lot concept became the foundation for improving congestion and visitor experience at the Glacier Center.

The proposed solution regulates the flow of commercial vehicle traffic, which accounts for approximately 95% of visitors that arrive during peak time periods, with an interceptor lot and supporting ITS technologies. Once capacity is reached at the bus loading zone, additional buses will queue in the interceptor lot until called forward to an available space to load or unload their passengers. When the visitor demand is lower, tour buses will bring their passengers to the Visitor Center without delay. ITS is critical to efficient management of the commercial traffic. This solution reduces visual, noise, and emissions impacts at the Visitor Center area, provides improved opportunities for interpretation and improves accessibility for those with mobility impairments.

Attachment 1 – Mendenhall Glacier Visitor Center Site Layout
Approximate scale: 1" = 0.1 miles



Project Description

What activities would be funded by the requested ATPPL financial assistance?

The original traffic design at the Mendenhall Glacier Visitor Center provides up to 5 buses to occupy the bus loading zone in the teardrop shaped cul-de-sac near the Visitor Center entrance (see attachment 1). The current and projected volume of bus traffic is too great for unregulated use of this area. One contributor to congestion is the queue formed by buses waiting for a curb-side slot to unload or load their passengers. Bus operations currently are not actively or efficiently managed. With real-time Intelligent Traffic Systems, bus drivers will know well in advance if there is a space for their vehicle or if they need to queue in an interceptor lot (located in an area which does not incur congestion). ATPPL funds will design, procure and install a real-time intelligent traffic system to meter the arrivals of buses depending on available slots.

Other steps are being taken to alleviate congestion in the immediate vicinity, such as constructing additional bus space at the teardrop cul-de-sac and modifying management strategies. For example, shuttle bus arrivals will continue service, but will load and unload in a separate existing parking lot within walking distance of the Visitor Center. Sidewalks will be improved and covered in some areas for visitor comfort; additional signs placed for way-finding. Separate Federal funding needs have been identified for 2007/8 for the survey, design, and construction to pave the existing bus parking lot, which functions as the interceptor lot in the overall plan. These are part of the transportation plan for the Visitor Center but not included in the current ATPPL funding request. The ATPPL funding request is for the ITS elements needed to enable more effective bus traffic management at the Visitor Center with or without the other components mentioned above.

ATPPL funds are for design-build type contract for real-time ITS, specifically targeting the following activities:

1. Design services to:
 - analyze seasonal vehicular traffic flow variations
 - identify regionally consistent ITS architecture and standards
 - prepare concept of operations and functional requirements
 - design the ITS to accommodate peak commercial traffic as well as have flexibility for change and growth,
 - incorporate algorithms to optimize the drop-off and pick-up rates for commercial vehicles
2. Design, procure, install, integrate, test and modify the system components to achieve initial operational capability.
3. Prepare an operations and maintenance plan showing anticipated operating, maintenance, annual maintenance, and anticipated costs.
4. Provide initial on-site operations training and orientation; provide operations guides.

Alternative Transportation in the Parks and Public Lands Implementation Evaluation Criteria

(There are separate evaluation factors for planning projects. Use the planning project proposal template for planning projects.)

Criteria	Points	Weight
1. Demonstration of Need		25%
a. Visitor mobility & experience	(1-5)	
b. Environmental condition as result of existing transportation system	(1-5)	
2. Visitor Mobility & Experience Benefits of Project		25%
a. Reduced traffic congestion	(1-5)	
b. Enhanced visitor mobility, accessibility, and safety	(1-5)	
c. Visitor education, recreation, and health benefits	(1-5)	25%
3. Environmental Benefits of Project		
a. Protection of sensitive natural, cultural, and historical resources	(1-5)	
b. Reduced pollution (air, noise, visual)	(1-5)	25%
4. Operational Efficiency and Financial Sustainability		
a. Effectiveness in meeting management goals	(1-5)	
b. Feasibility of proposed budget	(1-5)	
c. Cost effectiveness	(1-5)	
d. Partnering, funding from other sources	(1-5)	

Your responses to these questions must total no more than eight pages.

Implementation Evaluation Factors:

1. Demonstration of Need

- a. Visitor mobility and experience:** Describe the site's current and/or anticipated transportation problem or opportunity for improvement. Please cite documentation in agency plans and other reports to support your description. You should include information on issues such as traffic congestion, traffic delays, parking shortages, difficulty in accessing destinations, safety issues related to traffic, lack of access for persons with disabilities, lower incomes, or without cars, and visitor frustration.

Visitation peaks in recent years exceed site design capacity at the Visitor Center bus loading area by 20 – 25%. The majority of summer visitors to the center arrive in Juneau via cruise ships, purchase bus/coach tours to the Visitor Center, then re-board their bus and continue on other tour packages or return to their ships. These passengers account for the majority of the visitors to the Center, and the dynamic problem is that multiple buses are trying to deliver passengers at the same time to limited drop-off and pickup zones with very little management.

The Visitor Center is at the end of the Glacier Spur Road, and the teardrop shaped cul-de-sac circulates traffic into and away from the center. The cul-de-sac itself has space available for 5 buses to either drop-off or pick-up passengers and is the only access to a small adjacent lot for passenger vehicles and taxi-cab service. Vehicle congestion occurs as the 5 slots quickly fill up and as many as 17 buses have been observed waiting to unload passengers. The problem is further complicated by additional commercial and private vehicles accessing the same cul-de-sac: independent tour buses, taxi-cabs, and 30 minute cycle shuttle buses compete for space and mix with private vehicles. Motorcycles and bicycles are a part of the traffic mix, to a lesser extent.

Once passengers unload from buses, further congestion is experienced, and safety concerns arise. The visitor experience significantly degraded during peak visitation: crowded conditions, vehicle emissions, and confusion are prominent detractors. Visitors upon arrival are fixated with the beauty of the site and/or mission oriented to get inside the Visitor Center for their tour, and some step into traffic or between buses trying to re-enter the traffic stream further impeding flow and causing concern for pedestrian well being.

In 2006 an alternate circulation pattern was piloted, in which bus capacity was expanded by using a parking lot (*parking lot #2*) slightly removed from the Visitor Center to unload the majority of tour bus passengers (see attachment 1). This improved bus circulation but for bus passengers was circuitous, confusing and caused some visitors to miss the Visitor Center entirely. The use of this alternative circulation pattern also resulted in significantly longer distances to travel by foot; a significant hardship for those visitors with mobility impairments.

The opportunity with this proposal is to meter bus loading and unloading operations for optimization and with some additional minor changes to management and geometry of the parking facilities, immensely improve the visitor experience.

Documentation: "Mendenhall Glacier Visitor Center Vehicular and Pedestrian Traffic Congestion Study; Draft Final Report." The Volpe Center. December 2006. November 2006 peer technical review input from FHWA, FTA, and NPS staff.

b. Environmental condition as a result of the existing transportation system:

Describe the site's current or anticipated problem or opportunity for improvement of the environment in this area. Please cite documentation in agency plans and other reports to support your description. You should include information on current or anticipated problems such as air pollution, noise pollution, run-off, water quality, harm to vegetation and wildlife, and other impacts or stressors on natural, cultural and/or historic resources caused by the existing transportation system.

Unloading tour bus passengers in the Steep Creek trail parking lot (*parking lot #2*), asking them to walk the 5 foot wide paved trail and climb the single file stairs to arrive at the back of parking lot #1 is not only a stress to the visitors, it is a stress to the environment. The trail was designed as an educational trail (interpretive signs) and a low stress interaction to observe wildlife (salmon, bears, eagles, beavers, etc). With the 2006 strategy to route bus passengers along the trail for the purpose of accessing the Visitor Center, the entire experience designed for the trail is degraded. Noise on the trail from this volume of people is increased (people walking, talking), and some adjacent environmental impact occurs to vegetation in the few places where people can step off the trail or wear down vegetation to mineral soil in "short-cut" areas.

The opportunity addressed with this proposal is to re-establish a vehicle and pedestrian traffic pattern similar to the original design, with new bus and pedestrian management strategy incorporating intelligent traffic system technologies, and improve the quality of the visitor experience along the trail and bus activity areas.

By removing the stand-by commercial traffic and metering the bus traffic, emissions and noise from such vehicles will improve air quality and visitor experience in the vicinity of the Visitor Center. Buses needing to queue will do so in the interceptor lot, located approximately 0.5 miles from the Visitor Center.

Documentation:

"Environmental Assessment for Steep Creek Salmon Viewing Area." USDA Forest Service, March 1992.

"Mendenhall Glacier Visitor Center Vehicular and Pedestrian Traffic Congestion Study; Draft Final Report." The Volpe Center. December 2006.

2. Visitor Mobility and Experience Benefits

- a. Reduced traffic congestion:** Describe *how* this project will mitigate the impact of traffic congestion or enhance current visitor travel conditions. In order to respond to this question, please include (where applicable) a description of how this project will:
- Reduce the average number of daily motorized vehicle trips during peak visitation with project implementation. (This is estimated based on anticipated alternative transportation system usage at completion and the typical number of passengers per vehicle); *and*
 - Decrease or mitigate time lost to traffic delays.

The transportation plan for the Mendenhall Glacier Visitor Center takes an aggressive approach to controlling commercial traffic arriving at the center for either drop-off or pick-up operations. The plan incorporates an interceptor lot and Intelligent Transportation System technologies to meter the flow of commercial traffic, allowing in only as many vehicles as can be accommodated at one time. The ITS will optimize vehicle circulation, and in combination with minor construction to some components of the parking areas and administrative changes, overall delay will be reduced.

During peak visitation periods, the interceptor lot would be necessary, but at other variable visitation, commercial vehicles would be able to proceed directly to the Visitor Center. The ITS developed will be flexible to change with demand.

- b. Enhanced visitor mobility, accessibility, and safety:** Describe *how* the implementation of this project will improve or maintain visitor mobility, access and safety. In order to respond to this question, please include (where applicable) a description of:
- Benefits that the project would have in easing visitor travel to destinations and decreasing visitor inconvenience;
 - Improved access for persons with disabilities;
 - Improved access for individuals with lower incomes or without cars;
 - Anticipated impacts on vehicle accident rates or property loss;
 - Anticipated impacts on visitor safety in cases of catastrophic events, such as forest fires; *and*
 - The number of visitors per year that will benefit.

Congestion and exhaust emissions in the vicinity of the Visitor Center and prime Glacier viewing areas will be reduced by staging buses in an interceptor lot; the delays that do occur take place away from the Glacier and can be put to good use for visitor orientation and sharing of educational materials. The sense of arrival is strengthened by reducing the congestion in the arrival area, and the visitor experience is improved through more convenient access to the Glacier and Visitor Center. Visitor confusion would be reduced by having drop-off and pick-up take place within the same general area.

Restoring bus unloading to a location proximate to the Visitor Center will improve access for those with mobility impairments. Given the elderly age of many visitors, reducing the walking distance is of critical importance. Up to 361,000 visitors will be impacted considering all visitors delivered by commercial services (2006 MGVC records).

Safety will be improved as visitors can reach the Visitor Center without crossing the busy roadway. Because the bus traffic will be metered and managed, pedestrian safety is improved. Better management of the loading process will also reduce the number of visitors walking into the roadway to locate their tour bus.

- c. Visitor education, recreation and health benefits:** Describe *how* the project will enhance or maintain visitor experience related to educational benefits, recreational benefits, public health benefits, and social benefits. How many visitors per year will experience these benefits?

Due to crowding, insufficient information, and long walking distance from the bus unloading areas, many visitors are unable to take full advantage of the existing educational resources at the Visitor Center. The proposed scheme increases access to these resources by reducing crowding and walking distances and providing on-vehicle interpretation during peak visitation periods. During these periods, buses will be directed to an interceptor lot, where Forest Service staff or drivers will share educational and general orientation information with the passengers about the Glacier, the associated Visitor Center facilities and local educational trails. Between this personal greeting, distribution of an orientation pamphlet, and curb-side service for sense of arrival, their visit to the Glacier Center will be greatly enhanced.

During peak periods, all visitors arriving on commercial transportation (the majority of visitors), will benefit from the on-vehicle interpretation. All visitors (approximately 377,000 expected in 2007) will benefit from reduced crowding.

3. Environmental Benefits

- a. Protection of natural, cultural, and historic resources:** Describe *how* this project will improve or maintain the protection of natural, cultural, historic, and/or scenic resources. Please provide as much information as possible about *anticipated outcomes of the project*, such as:
- Ensuring that visitation does not exceed an area's ability to handle increased levels of visitation or the "carrying capacity" of the land unit;
 - Maintaining ecosystem function, ecosystem restoration, disturbed land restoration, or re-vegetation efforts;
 - Improving habitat connectivity;
 - Preserving an archeological resources, historical resources, viewshed or watershed; *and*
 - Reducing auto-large animal collision rates or other protection benefits where applicable.

The visitation levels may grow by as much as 4%, however the cruise dock capacity is capped at 5 ships at one time, so only modest growth trends are expected based on a greater percentage of cruise ship passengers opting for the tour package and/or an increase in independent travelers coming to the site. Without ITS, the number of visitors to the Mendenhall Glacier Visitor Center site will continue to grow during peaks, delivering too many passengers at one time. With ITS metering of bus traffic, visitation flow is manageable. As the interceptor lot traffic management plan takes effect, tour operator behavior will adapt to peak flows, which will also work towards optimization.

- b. Reduced pollution:** Describe *how* this project would reduce and/or prevent pollution – including air pollution, water pollution, noise pollution, and visual pollution. In order to respond to this question, please include (where applicable):
- Estimated reduction in *average vehicle miles traveled at peak visitation* (a measure that is an estimate of a reduction in pollutant emissions as a result of the proposed project); and
 - Estimated number of riders *switching from auto to transit or to non-motorized transportation (including bike, pedestrian, and/or waterborne craft)* as a result of the project (a measure of estimated reduction in fuel consumption for site patrons and improved energy efficiency aspects of transportation, including non-motorized transportation).

Visual clutter is reduced by using ITS to meter and optimize the traffic flow. Commercial traffic is required to layover in the interceptor lot, removing exhaust emissions from the pedestrian/vehicle interface area of the cul-de-sac.

4. Operational Efficiency and Financial Sustainability

- a. Operational Efficiency:** Describe how the proposed project is the most effective solution for meeting identified management goals and objectives for this site. Please cite documentation in agency plans and other reports to support your description.

There is no suitable site for an expansion in tour bus capacity within walking distance of the Visitor Center. Traffic management through the use of an interceptor lot and ITS will allow the Forest Service to improve the visitor experience and visitor safety at the Visitor Center, without incurring the capital and operational costs of developing a new transit system. Rather, existing private investment in a variety of transportation services will be leveraged to the benefit of all.

The most recent planning document for the Mendenhall Glacier Recreation Area, which specifically includes the Visitor Center, has consistent concerns for the types of issues that the proposed scheme works to eliminate. The issues include: increase in commercial use, the effect of over-capacity visitation to the facility, safety concerns, overcrowding in parking areas, view shelters, Visitor Center and nearby trails and the decreased enjoyment of the area by visitors.

"Mendenhall Glacier Recreation Area Record of Decision and Environmental Analysis". USDA Forest Service. 1996.:

- b. Feasibility of Proposed Budget:** Fill in the budget template below *or* attach a project budget that *at a minimum contains the items in the budget template* and extends at least 5 years. Include a narrative to elaborate on the financial plan.

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Revenue					
ATPPL funding (requested)	\$500,000				
Funds from public land budget		\$5,000	\$5,000	\$10,000	\$10,000
Other federal funds					
State funding					
Local funding					
Passenger Fares and/or transportation fees					
All other dedicated sources of funding ^{1,2}					
<i>Total Revenue</i>	\$500,000				
Capital Costs					
Purchase of rolling stock (vehicles)					
Lease of rolling stock (vehicles)					

Construction (e.g., bus shelters, sidewalks, trails, etc.)					
Rehabilitation					
Other: ITS Design / Build	\$500,000				
<i>Total Capital Costs</i>	\$500,000				
Operating Costs					
Salaries					
Routine Maintenance		\$5,000	\$5,000	\$10,000	\$10,000
Insurance					
Fuel					
Contracted services					
Other: _____					
<i>Total Operating Costs</i>		\$5,000	\$5,000	\$10,000	\$10,000
¹ Documentation to support all other dedicated sources of funding (e.g., letters of confirmation of financial contribution, or letters of in-kind contribution) or innovative financing must be provided with this application.					
² For example, funding from partnerships, private commitments, donations, etc.					

Proposed budget narrative: In this narrative, include details such as size and number of vehicles, fuel type, terms of lease, description of facilities to be constructed, types of ITS, etc. The narrative should also describe the maintenance plan, include information on how the project will impact total operating and maintenance costs and schedule at the site, as well as information on the project's impact on the unit's ability to maintain other assets. Finally, for vehicle replacement projects, please list the age, mileage, and vehicle type of each vehicle that you are requesting funding to replace.

The types of ITS technologies that are envisioned for the Mendenhall Glacier Visitor Center are parking sensors, traffic signal lights for directing commercial traffic to the interceptor lot, and digital message signs to dispatch queued buses. Passenger information improvements may be integrated into the system. On-board GPS for monitoring bus position between the downtown Juneau cruise ship docks and the available parking spaces at the Visitor Center might be considered. The proposal is for a Design-Build contract, once in place tested and personnel trained, the maintenance costs are expected to be for software upgrades and periodic maintenance to computer servers.

- c. Cost Effectiveness:** Fill in all information for items 1-4 below in order to calculate the cost per person using the alternative transportation system. FTA will calculate annualized cost per passenger trip and annual fare box recovery – common transit cost effectiveness measures – based on the information that you provide. ***You must provide all information in order to fulfill these required criteria.***

1. Annual cost for vehicle operations and maintenance (including salaries, fuel, maintenance, administrative expenses related to system, and all other operating costs): \$5,000 – \$10,000
2. Average annual number of riders: 357,000 /year
3. Transportation fee or fares recovered (average): 100%
4. Useful life of transportation assets: 10 + years

Annual cost per passenger trip: This will be automatically calculated by FTA.

Annual fare box recovery This will be automatically calculated by FTA. %

- d. Partnering, funding from other sources:** Describe any partnerships the project has with federal, state, tribal and local government agencies, gateway communities and the private sector. Please cite agreements or documentation (*including letters of dedicated financial support or confirmation of financial or in-kind contribution*) that show a high level of coordination and partnering activities. If applicable, describe any economic, mobility, or other benefits to the gateway community.

Overall alternative transportation service to the Mendenhall Glacier site is provided by private bus operators under permits issued by the Forest Service. The service is fully funded by tour fees or fares paid by passengers. The proposed ITS at the Mendenhall Glacier Visitor Center is to be built on Forest Service property and owned/operated by the agency; however, commercial bus operators will have to use the system as a condition of their permit. This possibility was presented in February 2007 to cruise ship and tour bus operators who will need to provide driver training on the ITS system and procedures in cooperation with the Forest Service.